



Stakeholder's Meeting

March 30, 2005

3:00 p.m.

HTNB Offices

Representatives/Attendees

360 Architects - Jim Calcara
BNIM Architects – Steve McDowell
Columbus Park Neighborhood Association –
Michael Barsotti; Amica Gomersall;
Ralph Keys; Mike Sturgeon
Downtown Council – Chris Carucci; John
Yacos
Greater KC Chamber – Christine Murray;
Kristi Wyatt
GSA – David Fellers
Guinotte Manor – Debrorah White
Housing Authority – KCMO – Bryan Love
Isle of Capri Casino
KC Design Center – Daniel Serda
KCATA – Dick Jarrold
KCMO - City Council – Bill Skaggs – Lisa
Minardi
KCMO - Environmental Management – Ron
McLinden
KCMO - Planning & Development – Steve
Noble
KCMO - Public Works – Larry Frevert
Legal Aid of Western Missouri – Julie Levin
MARC – Todd Ashby; Aaron Bartlett; Mell
Henderson

Missouri Senate – Charles Wheeler – Larry
Malone
North Kansas City – Michael Smith
North Kansas City Levee District – Leon
Staab
Northland Regional Chamber of Commerce
– Sheila Tracy
NT Realty – Tom Demesk
Port Authority of Kansas City – Mike Burke
SKW – Jay Burress; Mike Duffy
U.S. House of Representatives – Sam
Graves – Melissa Goss
US ACE – Robert Smith
Wagner Industries – John E. Wagner, Sr.
Waterford Property Co. – Paul Fogel
Zimmer Realty Co. – Bill Zimmer
MoDOT – Lee Ann Kell; Joel Blobaum; Kent
Johnson; Jim Shipley
Cambridge Systematics – Erik Cempel
HNTB – Clyde Prem; Rachel Lunceford;
Betty Burry; Jerry Irvine; Chris Cline;
Bob Lyon; Tom Westerman; Jerry Mugg;
Dale McGregor; Cara Dewey
CCI – Adam Yarbrough; Marna Courson

Other Invitees:

Civic Council of Greater KC
Clay County EDC
Federal Emergency Management Agency
Forest City Enterprises
Greater Kansas City Chamber of Commerce

Housing Authority of Kansas City
Kansas City EDC
KCMO - City Council – Bonnie Sue Cooper
KCMO - City Council – Deb Hermann
KCMO - City Council – John Fairfield



I-29/I-35 EIS

KCMO - City Manager's Office
KCMO - City of Kansas City, Missouri
KCMO - Mayor Barnes' Office
KCMO - Parks and Recreation
KCMO - Water Services - East/Levee
KDOT
Missouri Department of Conservation
Missouri Department of Economic
Development
Missouri Department of Natural Resources
Missouri House – John Burnett
Missouri House – Melba Curls
Missouri House – Sharon Sanders Brooks
Missouri House – Trent Skaggs
Missouri River Crossing Committee
Missouri River Crossing Committee
Missouri Senate – Luann Ridgeway
Missouri Senate – Victor Callahan
Missouri Senate – Yvonne Wilson
Nicholson Group
North Kansas City - City Administrator's
Office

North Kansas City - Economic Development
North Kansas City - Mayor's Office
North Kansas City - Parks & Recreation
North Kansas City - Planning & Public Works
North Kansas City - Police Department
North Kansas City - Public Works
North Kansas City Business Council
Northeast Industrial Association
Regional Transit Alliance
Singleton & Associates
State Emergency Management Agency
Talliaferro & Browne
U.S. Coast Guard - 8th District
U.S. Department of Housing and Urban
Development
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. House of Representatives
U.S. Senate - Senator Bond
US ACE - KC District

Welcome..... Lee Ann Kell, MoDOT

Kell thanked the group again for their time; and noted that their input is helping MoDOT plan a better project for this community. She went on to say that MoDOT acknowledges the time and energy they are contributing, and we want to assure you that you are being heard and that we are working to respond to your input through our recommendations. Also, in large part because we feel that your input has been so helpful, we intend to continue this stakeholder process through the construction of this project.

Next time the group gathers, we will be talking about the recommended preferred alternatives. At this time, the team is working on refining alternatives and working with MoDOT to find the best possible solutions. You will see in many places and cases where the team is responding to your input and concerns. We anticipate that meeting will happen in late April or early May.

Today, we will have a meeting in two parts, including presentations. As always, we're here to hear your questions and input, so please feel free to ask questions as we move through the agenda. The first part will focus on the Missouri River Crossing part of the project. We'll start with a presentation that HNTB developed for their non-bridge engineering staff to help them understand the process and the issues that come into play in the bridge design process. Next, we'll talk about how the EIS decisions might influence the bridge type selection process. Then,

after a short break, we'll present options for moving people through the corridor, including information and data about traffic analysis and forecasts.

Introductions & Housekeeping Betty Burry, HTNB

Burry reminded the group that the point of these meetings is to get input and answer questions, and that these presentations are informal, so please let us now if you have questions, concerns or comments. She noted the location bathrooms and refreshments. Then she initiated introductions around the room, asking meeting participants to explain their stake in the project. Lastly, she introduced Bob Lyon of HTNB, who will be presenting information on bridges in general via a presentation developed for HNTB's non-engineering staff.

Bridge Type Selection and Engineering Overview Bob Lyon, HNTB**Bridge Type Selection
And Engineering Overview****HNTB**

Bob Lyon presented an overview of bridge type selection process and engineering

**"When the history of our
time is written, posterity will
know us not by a cathedral
or temple, but by a bridge."**

*- Montgomery Schuyler, 1877
writing about the Brooklyn Bridge*

HNTB

Lyon began with a quote about the Brooklyn Bridge.

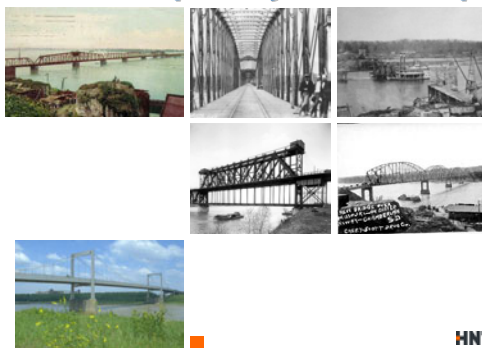
Bridges & Society



HNTB

He discussed the history of bridges and noted that even today, bridges take on common forms – girder, like a log or rock, suspension, like a woven bridge or arch, like those of the Roman empire. Today, landmark bridges are tied to the image of many of the world's great cities.

Kansas City Bridges & Society



HNTB

Bridges have played an important role in the development of Kansas City.

The NEPA Process

All federally-funded projects must be conducted in accordance with National Environmental Policy Act of 1969 (NEPA). This requires that each new project evaluate the benefits and costs of a project in terms of its effect on the environment.

HNTB

Lyon provided an overview of the NEPA (National Environmental Policy Act) process, and how it ties in with major bridge projects.

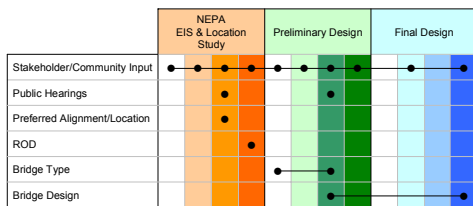
The NEPA Process

- Federal funds appropriated for feasibility and environmental studies
- Preliminary engineering and feasibility studies completed
- Environmental Impact Statement (EIS) initiated
- Draft EIS Completed
- Final EIS Completed
- ROD Received

Bridge studies are conducted in support of the NEPA/EIS process.

HNTB

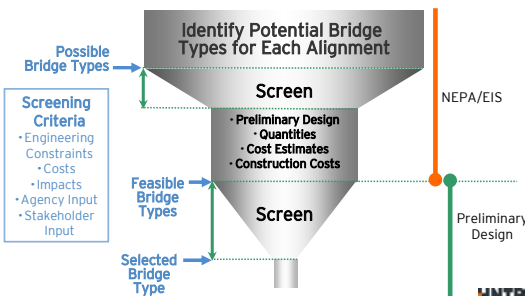
Typical Bridge Process



HNTB

Lyon provided an outline of a typical bridge process, stressing the fact that typically, bridge type selection is the first part of the preliminary design.

Typical Bridge Type Selection Process



HNTB

During the EIS phase, the bridge alignment is established, and general bridge types are considered. At the end of that process, a range of feasible bridge types for that location are often identified.

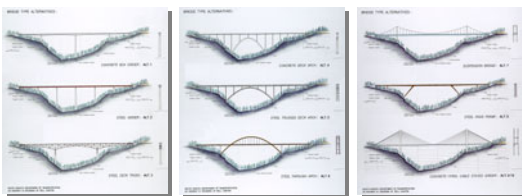
Bridge Type Screening Criteria

- Engineering Constraints
 - Constructability
 - Geotechnical
 - Aesthetics
 - Impacts
- Costs
 - Initial Construction Cost
 - Maintenance & Inspection Issues/Costs
- Agency Input
- Stakeholder Input

HNTB

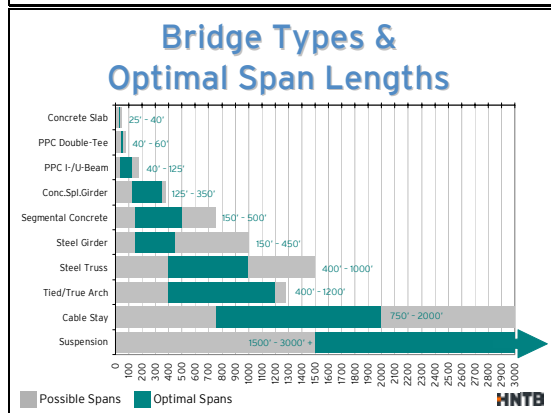
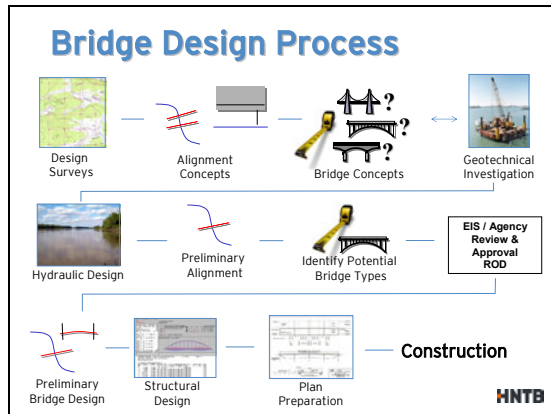
Lyon reviewed typical bridge screening criteria.

Screening of Alternatives



HNTB

He provided an example of some preliminary alternatives developed for a project over a large valley.



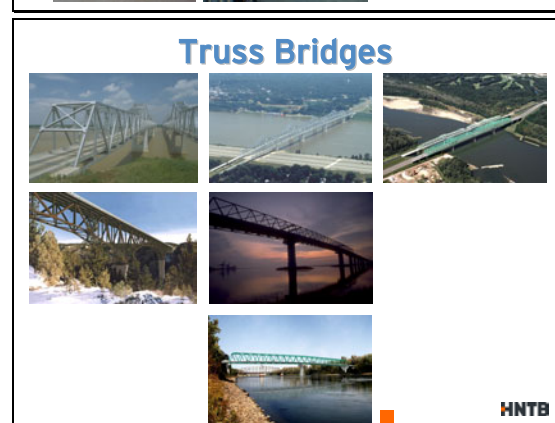
- ## Girder Bridges
- Steel or Concrete
 - I-Girders or Box Girders
 - Easy to fabricate
 - Easy to erect
 - Replaceable slab
 - Redundancy
 - Unobstructed motorist view
 - Longer spans require deeper sections
 - Longer spans may require temporary falsework for erection
 - Easy to widen in the future
- HNTB**

Lyon reviewed the bridge design process as it works with and supports the EIS process and then moves towards construction.

Lyon noted that while you can build almost any kind of bridge in any location, experience has shown that certain types of structures are most efficient for certain span lengths. Lyon then began a review of different bridge types.



- ## Truss Bridges
- Economical for longer spans vs. Plate Girders
 - Thru Truss vs. Deck Truss
 - Prevalent for Missouri River crossings 1920s-1930s
 - Thru truss allows reduced section under the deck
 - Potentially higher maintenance and inspection costs
 - Difficult to widen in the future
- HNTB**

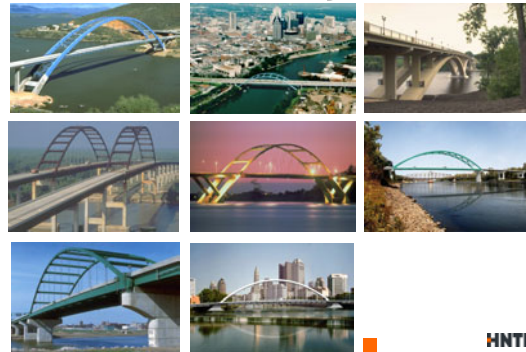


Arch Bridges

- Thru Arch vs. Deck Arch
- True Arch vs. Tied Arch
- Steel vs. Concrete
- Foundation Requirements
- Erection: Tiebacks, Float-in
- Replaceable Deck
- Difficult to widen in the future

HNTB

Arch Bridges



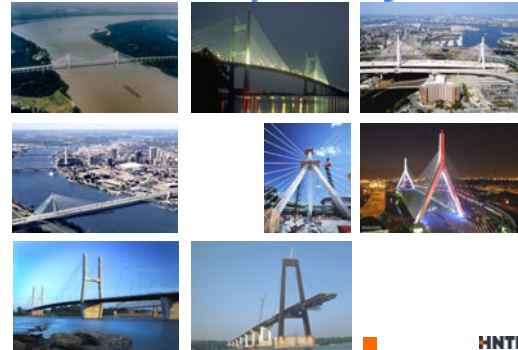
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Cable-Stayed Bridges

- Recent modification of the suspension bridge
- Greater stiffness
- Steel vs. Concrete
- Highly indeterminate complex structural behavior
- Roadway deck integral to structure
- Potentially higher maintenance and inspection costs
- Difficult to widen in the future

HNTB

Cable-Stayed Bridges



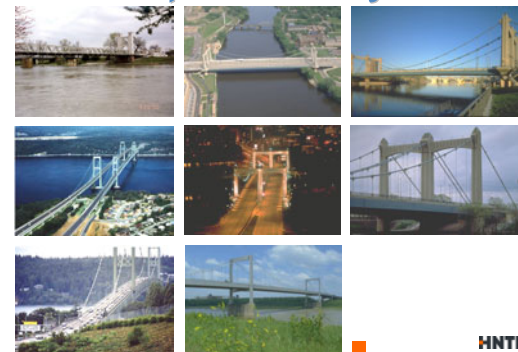
HNTB

Suspension Bridges

- Economical for long spans
- Efficient use of material
- Can be erected from above
- Difficult to build
- Susceptible to dynamic vibrations
- Potentially higher maintenance and inspection costs
- Difficult to widen in the future

HNTB

Suspension Bridges



HNTB

"The greatest glory in the art of building is to have a good sense of what is appropriate. For to build is a matter of necessity; to build conveniently is the product of both necessity and utility; but to build something praised by the munificent, yet not rejected by the frugal, is the province of an artist of experience, wisdom, and thoughtful deliberation."

- Leon Battista Alberti, 1486

HNTB

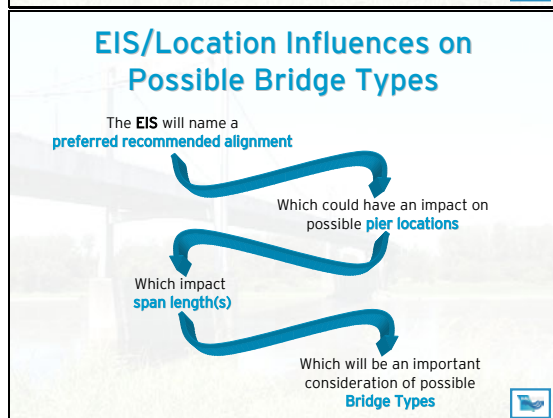
Lyon closed with a quote from 1486.

Missouri River Crossing Alignments Tom Westerman, HNTB

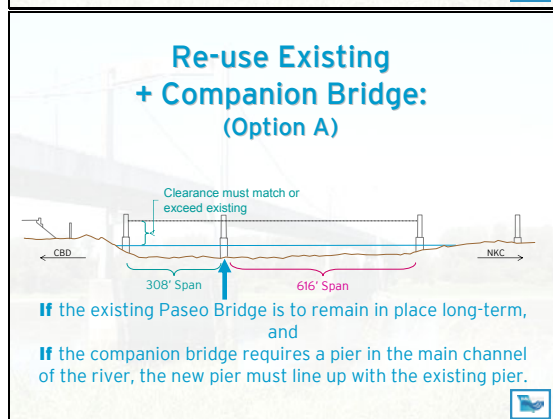
I-29/I-35 Missouri River Crossing

EIS Component: Preferred Alignment
*If and where a new structure or structures
would be located.*

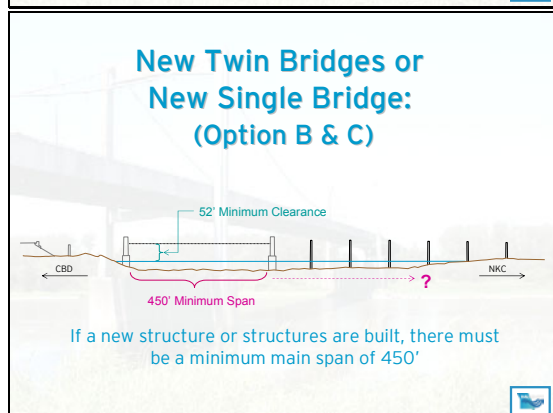
Tom Westerman of HNTB provided an overview of Missouri River Crossing issues as they relate to the EIS.



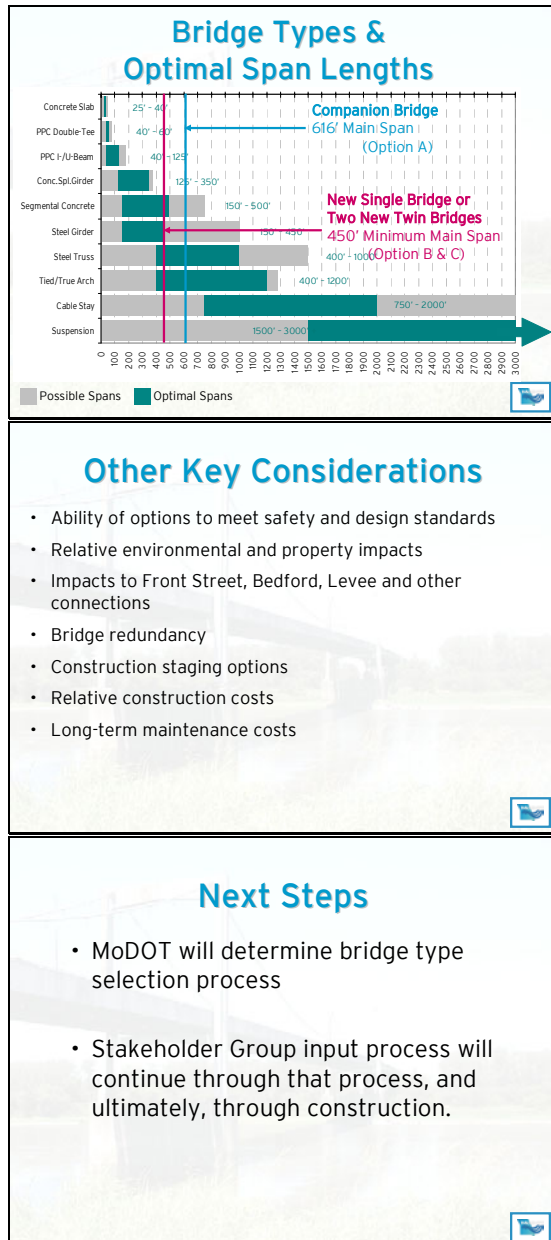
He re-emphasized Bob Lyon's comment that the EIS will not determine a bridge type. However, because of pier location constraints associated with alignment options, there is a relationship between alignment, pier locations, span lengths, and, ultimately, bridge types



For Option A, re-use of the existing bridge and the construction of a companion bridge, the US Coast Guard will require that if there is a new pier in the river, that pier location must match the location of the existing bridge. Additionally, the Coast Guard requires a 52' clearance over the 2% water line (the level of the river that is exceeded only 2% of the time).



If the river crossing is either two twin bridges or a single bridge, the Coast Guard will require a minimum span of 450'.



Westerman noted that all of the alternatives leave a number of options relative to bridge type. If a companion bridge is built next to the existing Paseo, that bridge will need to compliment the existing structure visually, as well. Westerman also discussed possible construction staging strategies for the three options.

Other Key Considerations

- Ability of options to meet safety and design standards
- Relative environmental and property impacts
- Impacts to Front Street, Bedford, Levee and other connections
- Bridge redundancy
- Construction staging options
- Relative construction costs
- Long-term maintenance costs

Westerman reviewed other consideration relative to determining the alignment for the Missouri River Crossing location.

Next Steps

- MoDOT will determine bridge type selection process
- Stakeholder Group input process will continue through that process, and ultimately, through construction.

Westerman reviewed next steps, which include MoDOT's determination of the bridge selection process and ongoing input from the stakeholder group.

Questions and Discussion:

Would it be possible to not have to have the 52' foot vertical clearance, which could allow merge and exit lanes that are not as steep and easier for trucks to get up to full speed, eliminating the need for auxiliary lanes?

It is unlikely that Coast Guard would change this requirement. We have experienced designing bridges over rivers that are not currently navigable because of long-term low water flows that still have similar clearance requirements because they may one day become navigable.

There is little or no barge traffic on this portion of the Missouri. Couldn't those few barges/tug boats have lower cabins to allow a lower clearance?



Again, experience has taught us that it is very unlikely that the Coast Guard would change those requirements. The notion that a lower profile on the bridge is important; the deck profile could be lowered by as much as eight-to-ten feet by having the structure supported from above rather than below.

Additionally, there is the possibility excursion boats on the river; with energy prices continuing to rise, there may be more barge traffic in the future.

Would like to see estimate of cost savings if we could lower bridge by 10 or 20 feet and eliminate the need for auxiliary lanes.

Why are we doing a rehab this summer on the Paseo if we may be replacing it in the fairly near future?

First, MoDOT determined that there is a need for rehabilitation now, or else there is a risk of damage that would be irreparable in the future, which would limit future options for the crossing. Secondly, MoDOT has initiated a rehabilitation to be completed this summer to address 15-20 year needs. Originally, the plan was to complete a more extensive rehabilitation, but given the possibility that the bridge may be replaced, that work was scaled back. This approach to the rehab helps provide the greatest range of options relative to a long-term solution. If the Paseo Bridge is to stay in place, additional rehab will need to be conducted after the construction of the companion bridge. With the passage of Amendment 3, new construction may happen sooner than originally thought, but in the meantime, MoDOT is working to maintain the Paseo Bridge in a way that is as efficient as possible.

Would we put the same type of bridge next to the existing Paseo if it is going to be preserved?

It is important to note that an important consideration in this process is the historic nature of the Paseo Bridge. If it is left in place, a companion bridge would need to compliment that structure.

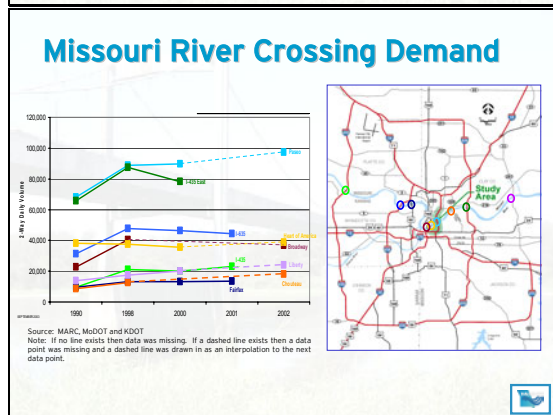
Break

**Corridor Traffic Data Review Clyde Prem, HNTB;
Erik Cempel; Cambridge
Systematics**

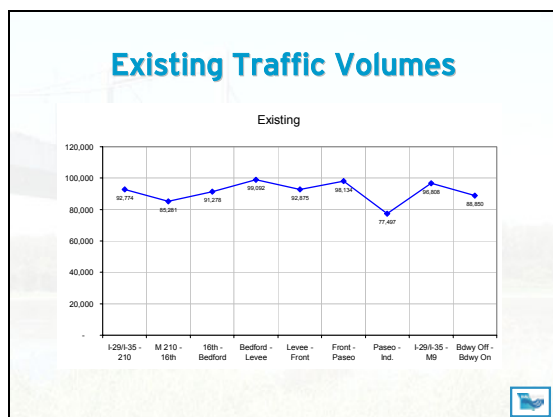
I-29/I-35 EIS & Location Study Data & Analysis

Current Conditions

The presentation began with a review of current conditions.



Prem noted the current Missouri River Crossing locations and the demand. In response to a question, he said that these are actual counts through 2003. Where there is no line, that data is missing.



Prem discussed current (2003) traffic volumes in the study corridor by sub-corridor. In response to a question, he said that data is based on actual counts.

Peak Hour Traffic

Sub corridor	AM Peak Hour Directional Distribution	PM Peak Hour Directional Distribution
I-29/35 Corridor	SB Peak	NB Peak
M-210 to the Paseo Bridge	62%	59%
The Paseo Bridge to Paseo Blvd.	57%	54%
Paseo Blvd. to I-70	54%	51%
I-35/70 Corridor	WB Peak	EB Peak
I-29 to US 169 (Broadway) ¹	58%	53%

Source: HNTB Corporation, 2003.
¹Directional distribution data presented in WB peak in the morning and EB peak in the afternoon.



He noted that peak hour traffic is in the 60/40 range; that is, in the sub-corridors with the highest amount of peak hour directional traffic, 60% or less is headed in the peak direction. For reversible lanes to be effective, typically that split needs to be in the 70 to 80% range.

Truck Percentages

Segment	Truck Percent
I-29/35, Paseo Bridge	10.0%
I-35/70, North Leg of Loop	10.6%
I-35/70, East Leg of Loop	10.6%



Source: MoDOT, District 4



Trucks make up about 10% of the traffic, based on current data. In some rural areas, truck traffic might be as much as 30%, but there are far fewer other types of vehicles.

Level of Service (LOS) Standards

A Free flow; low volumes and high speeds; most drivers can select their own speed

D Approaching unstable flow; lower speeds; peak-hour design standard

B Stable flow; speeds somewhat restricted by traffic

E Unstable flow; low, varied speeds; volumes at or near capacity

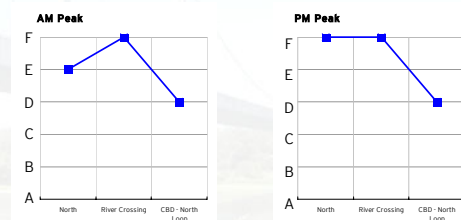
C Stable flow; speed controlled by traffic

F Unstable flow; low, varied speeds; volumes at or near capacity



Prem explained the concept of Level of Service, and noted that the standard for urban, peak hour traffic flows is LOS D.

Existing LOS



Source: HNTB Corporation, 2003. Level of service information based on Highway Capacity Manual 2000, Transportation Research Board.



Prem reviewed the existing LOS based on 2003 traffic counts in three sub corridors for both the morning and afternoon rush-hour. The LOS over the bridge is F both times of day.

Forecasting Future Needs

Prem introduced Erik Cempel of Cambridge Systematics, who is responsible for the future traffic model.

Travel Demand Model Background

- Based on I-70 MIS Model, which comes from
 - MARC 2030 LRTP Model
 - MoDOT Statewide Model
 - Northland MIS Travel Model

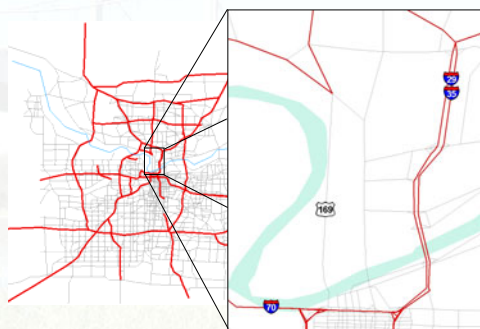
Cempel discussed the data sources for the I-29/I-35 EIS traffic model.

Travel Demand Model Background

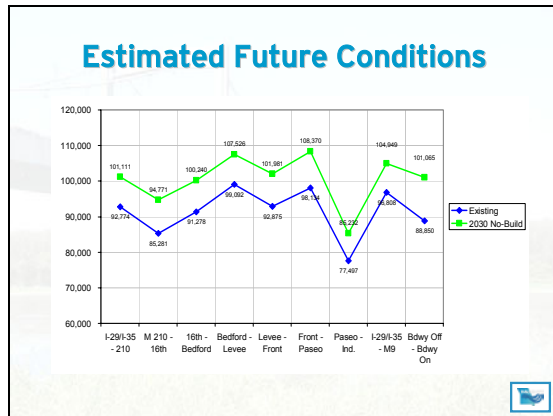
- Refined, improved, recalibrated
 - Base year updated to 2003
 - Highway detail added
 - Transit routes revised
 - Adjusted to better match conditions at river
- Future year scenarios
 - 2030 LRTP planned/programmed projects
 - SMART Moves transit

Cempel discussed how the model was updated and calibrated to as accurately as possible reflect current and future scenarios.

Travel Demand Model Network



He showed a map of the road network included in the model and noted that Smart Moves, Scout and all other planned and programmed projects except those that are part of the I-29/I-35 EIS are included in the model.



If no improvements are made in the study corridor, traffic will still increase above the 2003 levels used as the base-line. There were a number of question relative to inputs; input is based on 2003 traffic counts and the metropolitan growth model (location of homes, jobs and other destinations) established by MARC. There was also a question about how the Broadway Bridge is included; Cempel noted that it is an important part of the network and is included in the model.



Prem then began a discussion of possible solutions.

ITS/TMS Solutions

Pros

- Scout is in place and is considered in evaluation of alternatives
- Reduced demand via alternate routes, modes and travel times
- Possible reduced environmental impacts

Cons

- ITS/TMS will not significantly reduce congestion in the corridor as stand-alone tools

Trade-Offs

- Even with TMS and ITS, additional capacity will be needed

Intelligent Traffic Systems and Traffic Management Solutions help address the congestion, but are not sufficient alone to solve the problem.

Increased Utilization of Transit

Pros

- Smart Moves is considered in evaluation of alternatives
- Possible reduced environmental impacts
- Increased ridership could support further transit expansion and enhancements

Cons

- Disperse travel patterns
- Difficulty changing commuter habits
- Capital investment needed to enhance transit system connections
- On-going operational costs

Trade-Offs

- HOV could support Smart Moves and transit initiatives
- Even with transit, additional capacity will be needed - not a significant enough impact to decrease demand
- Support for regional approach for transit options and to increase ridership to effectively implement transit solutions

Several stakeholders have noted the importance of transit. Smart Moves is included in the model, and HOV lanes could support transit. Again, though, transit does not sufficiently reduce demand and congestion in the corridor.

Increase Capacity

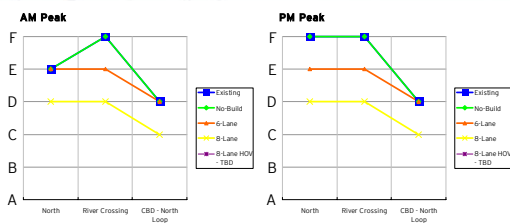
I-29/I35 Increased Capacity Alternatives:

- Six Lanes
- Eight Lanes
- Eight Lanes/HOV



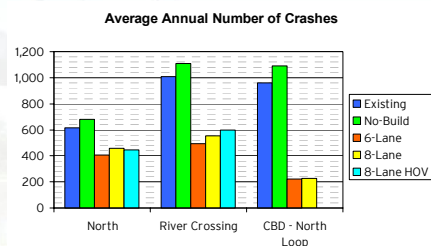
The team has looked at three different alternatives for increasing capacity.

Increased Capacity Peak Hour Level of Service (2030)



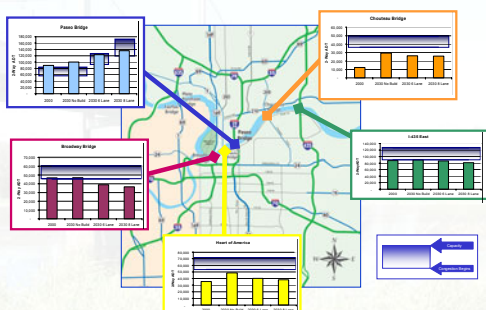
Prem reviewed forecasted levels of service for additional lanes; HOV LOS is still being calculated.

Increased Capacity Safety Impacts



Prem reviewed safety impacts of the alternatives by providing information on the average number of crashes. He noted that crash rate data will also be available, along with crash information on arterial streets that connect to the Interstate.

Increased Capacity Impacts to Nearby Missouri River Crossings



Impacts to nearby river crossings were also discussed. With increased capacity, some traffic is shifted; without it nearby bridges will also begin to see significant congestion.

Missouri River Crossing How Many Lanes?

- Needs to match through-lane configuration
- Needs to allow safe merges and exits to and from Front, Levee and/or Bedford
- Needs to be a long-term solution; difficult to expand bridge structures



Prem discussed some of the issues relative to lane needs on the bridge itself, noting that most highway planning is focused on 30 years out, but a major bridge may be expected to last 50 to 100 years.

Next Steps

- Brief Stakeholder Group on Recommended Preferred Alternatives
- Complete Draft EIS
- Formal Comment Period
 - Make Document Available for Review
 - Public Hearing
- Final EIS
- Record of Decision



Next steps include reconvening the stakeholder group to discuss the recommended preferred alternatives, the distribution of the draft document, the public hearing and ultimately, the Record of Decision (ROD).

Questions and Discussion:

Clarify what projects are included in the model?

Existing and planned/programmed projects other than this project itself.

What is the current capacity?

It is four-lane across the Missouri River. Actual traffic capacity differs from the capacity set in a model; you will see roadways like this corridor that actually carry more traffic than capacity, but those roadways are heavily congested.

What about future trip distances?

Those are based on the MARC model for regional growth, destinations, etc. Yes, they do grow incrementally each year.

Does the model include the possibility of higher gas prices?

The model is based on MARC's projections for the area. It does not include major changes in things like gas prices or a major economic shift (depression, recession, boom). MARC is updating their model but our work is based on MARC's best projections for the community at this time. If there are concerns about factors in the model, then those need to be addressed through MARC's processes.



How much is congestion versus design factors?

They are interrelated, but there is definitely congestion in this corridor.

How much of the accident rate is related to lane shifts?

Fixing those will help reduce the rate; we don't have the data here today to tell you exactly much that single component could impact crash rates.

What about severity of crashes?

That information will be detailed in the Draft EIS.

Could I get a copy of traffic and crash data before the release of the Draft EIS?

We should be able to do that.

What about impacts to Broadway Bridge and other Missouri River Crossings?

Those crossings are a part of our analysis. The MIS considered improvements at other locations, but the I-29 corridor proved to be the critical link in increasing capacity.

What about pedestrian and bike access across the river?

The EIS will look at those issues and provide some direction on how to address need.

Can't we do merges at grade instead of on the bridge?

The distance between interchanges just isn't long enough to allow that.

What about a cost/benefit analysis of HOV?

That will be a part of the EIS.

Strong need and justification for non-motorized access across the river relative to environmental justice.

A discussion relative to pedestrian and bike access across the river will be a part of the EIS.

We are still waiting for information on methodologies.

The team will check on the status of that document.

The meeting was adjourned at 5:00; Burry noted that meeting notices will go out at least two weeks prior to the next meeting, which should be sometime in late April or early May.